4. GENERAL PROTECTION/COLLECTION STRATEGIES

4.1. Chapter Overview

This chapter details the specific response strategies and resources to protect as outlined by the participants of the GRP workshop for the Admiralty Inlet / Hood Canal area. It describes the strategies determined for each area and the prioritization of those strategies. Note that GRPs only address protection of sensitive **public** resources. It is the responsibility of private resource owners and/or potentially liable parties to address protection of private resources (such as commercial marinas, private water intakes, and non-release aquaculture facilities).

Maps & Matrices

The maps in this chapter provide information on the specific location of booming strategies. They are designed to help the responder visualize response strategies. Details of each booming strategy are listed in corresponding matrix tables. Each matrix indicates the exact location, intent and implementation of the strategy indicated on the map. The "Status" column describes whether the strategy has been visited or tested in the field, and the date of the visit/test. Most strategies include a number for the corresponding shoreline photo, which is available on the Washington Department of Ecology's internet site at http://www.ecy.wa.gov/apps/shorephotos/.

Major Protection Techniques

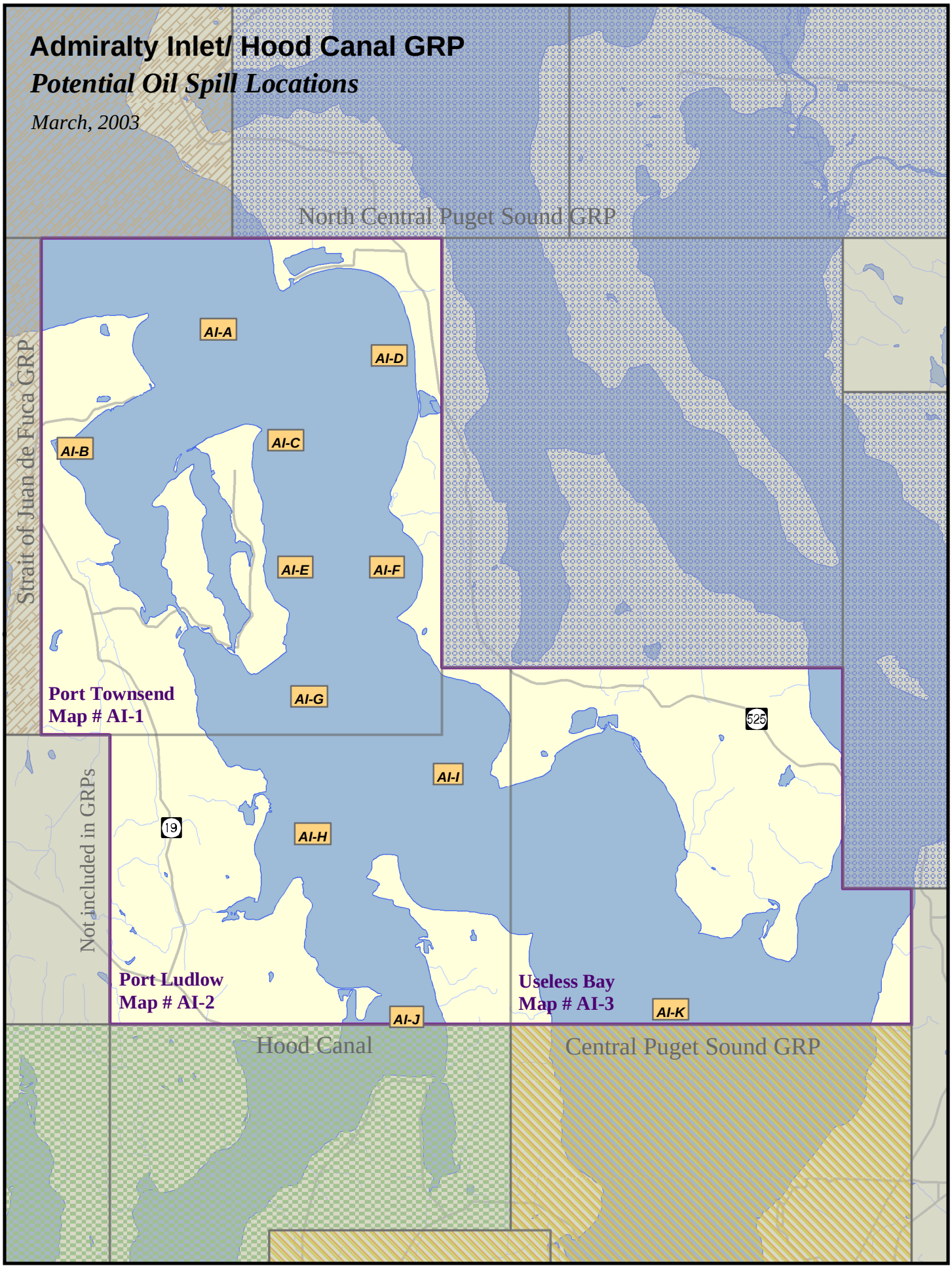
All response strategies fall into one of three major techniques that may be utilized either individually or in combination. The strategies listed in Section 4.2 are based on the following techniques, and are explained in detail in Section 4.3:

Dispersants: Washington State Policy currently does not allow use of dispersants in this area. Certain chemicals break up slicks on the water. Dispersants can decrease the severity of a spill by speeding the dissipation of certain oil types. Their use will require approval of the Unified Command. Dispersants will only be used in offshore situations under certain conditions, until further determinations are made by the Area Committee and published in the Area Contingency Plan.

In Situ Burning: Approval to burn in this area is unlikely due to the proximity of population to a potential burn site. Burning requires the authorization of the Unified Command, who determine conformance of a request to burn with the guidelines set forth in the Area Plan. This option is preferable to allowing a slick to reach the shore provided that population areas are not exposed to excessive smoke. Under the right atmospheric conditions, a burn can be safely conducted in relative close proximity to human population. This method works on many types of oil, and requires special equipment including a fire boom and igniters.

Mechanical Recovery and Protection Strategies: If a spill is too close to shore to use In Situ burning or dispersants, the key strategies are skimming and use of collection, diversion, or exclusion booming to contain and recover the oil, and prevent it from entering areas with sensitive wildlife and fisheries resources. These options are described in detail in Appendix A. Specific skimming strategies are not listed in the maps and matrices, but skimming should be used whenever possible and is often the primary means of recovering oil and protecting resources, especially when booming is not possible or feasible.

Priorities: The strategy priority tables (Section 4.2.) were developed using specific locations where spills are likely to occur. Trajectory modeling was used for each of these "Potential Spill Origins" to identify sensitive resources that would likely be impacted within the initial hours of the spill. A booming strategy priority table was developed for each of the "Potential Spill Origins" based on the sensitivity of resources, feasibility, etc. **Booming strategies should be deployed following the priority table for the "Potential Spill Origin" closest to the actual spill origin.** The map on page 4-2 shows the locations of all Potential Spill Origins for the Admiralty Inlet / Hood Canal GRP (no tables were developed for Hood Canal). The booming strategies indicated in the priority tables are explained in detail in the Maps & Matrices section (Section 4.3.). It is implied that control and containment at the source is the number one priority of any response. If in the responder's best judgment this is not feasible, then the priorities laid out in the priority tables take precedence over containment and control.


Admiralty Inlet/ Hood Canal GRP
Potential Oil Spill Locations
March, 2003
North Central Puget Sound GRP
Strait of Juan de Fuca GRP
AI-A
AI-B
AI-C
AI-D
AI-E
AI-F
AI-G
Port Townsend
Map # AI-1
AI-I
AI-H
19
525
Not included in GRPs
Port Ludlow
Map # AI-2
Useless Bay
Map # AI-3
AI-J
AI-K
Hood Canal
Central Puget Sound GRP

4.2.2 BOOMING STRATEGY PRIORITY TABLES

Table 4-1

Potential Spill Origin: AI-A - Point Wilson			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-1	4-8	
2	AI-2	4-8	
3	AI-11	4-8	
4	AI-12	4-8	
5	AI-13	4-8	
6	AI-16	4-8	If strategies AI-11, 12, and 13 can be successfully deployed, skip to booming priority # 11. Deploy strategies AI-14 thru AI-18 only if strategies AI-11, 12, and 13 cannot be deployed.
7	AI-14	4-8	
8	AI-15	4-8	
9	AI-18	4-8	
10	AI-17	4-8	
11	AI-19	4-8	
12	AI-20	4-8	
13	STR-41	4-16	Refer to Strait of Juan de Fuca GRP for STR strategies

Table 4-2

Potential Spill Origin: AI-B - Port Townsend Paper			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-3	4-8	
2	AI-4	4-8	
3	AI-5	4-8	
4	AI-11	4-8	
5	AI-12	4-8	
6	AI-13	4-8	
7	AI-2	4-8	
8	AI-1	4-8	

Table 4-3

Potential Spill Origin: AI-C - Northeast corner of Marrowstone Island			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-1	4-8	
2	AI-2	4-8	
3	AI-19	4-8	

Table 4-4

Potential Spill Origin: AI-D - Admiralty Bay			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-19	4-8	
2	AI-20	4-8	

Table 4-5

Potential Spill Origin: AI-E - Marrowstone Island			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-1	4-8	
2	AI-2	4-8	
3	AI-11	4-8	
4	AI-12	4-8	
5	AI-13	4-8	
6	AI-18	4-8	
7	AI-9	4-8	
8	AI-10	4-8	
9	AI-8	4-8	
10	AI-19	4-8	
11	AI-21	4-9	
12	AI-28	4-9	

Table 4-6

Potential Spill Origin: AI-F - Bush Point			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-19	4-8	
2	AI-20	4-8	

Table 4-7

Potential Spill Origin: AI-G - Oak Bay			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-28	4-9	
2	AI-1	4-8	
3	AI-2	4-8	
4	AI-18	4-8	
5	AI-24	4-9	
6	AI-21	4-9	
7	AI-9	4-8	
8	AI-10	4-8	
9	AI-8	4-8	
10	AI-19	4-8	
11	AI-11	4-8	
12	AI-20	4-8	

Table 4-8

Potential Spill Origin: AI-H - Mats Mats Bay			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-24	4-9	
2	AI-27	4-9	
3	AI-25	4-9	
4	AI-26	4-9	
5	AI-21	4-9	
6	AI-28	4-9	
7	AI-18	4-8	
8	AI-9	4-8	
9	AI-10	4-8	
10	AI-8	4-8	
11	AI-1	4-8	
12	AI-2	4-8	
13	AI-23	4-9	
14	AI-22	4-9	

Table 4-9

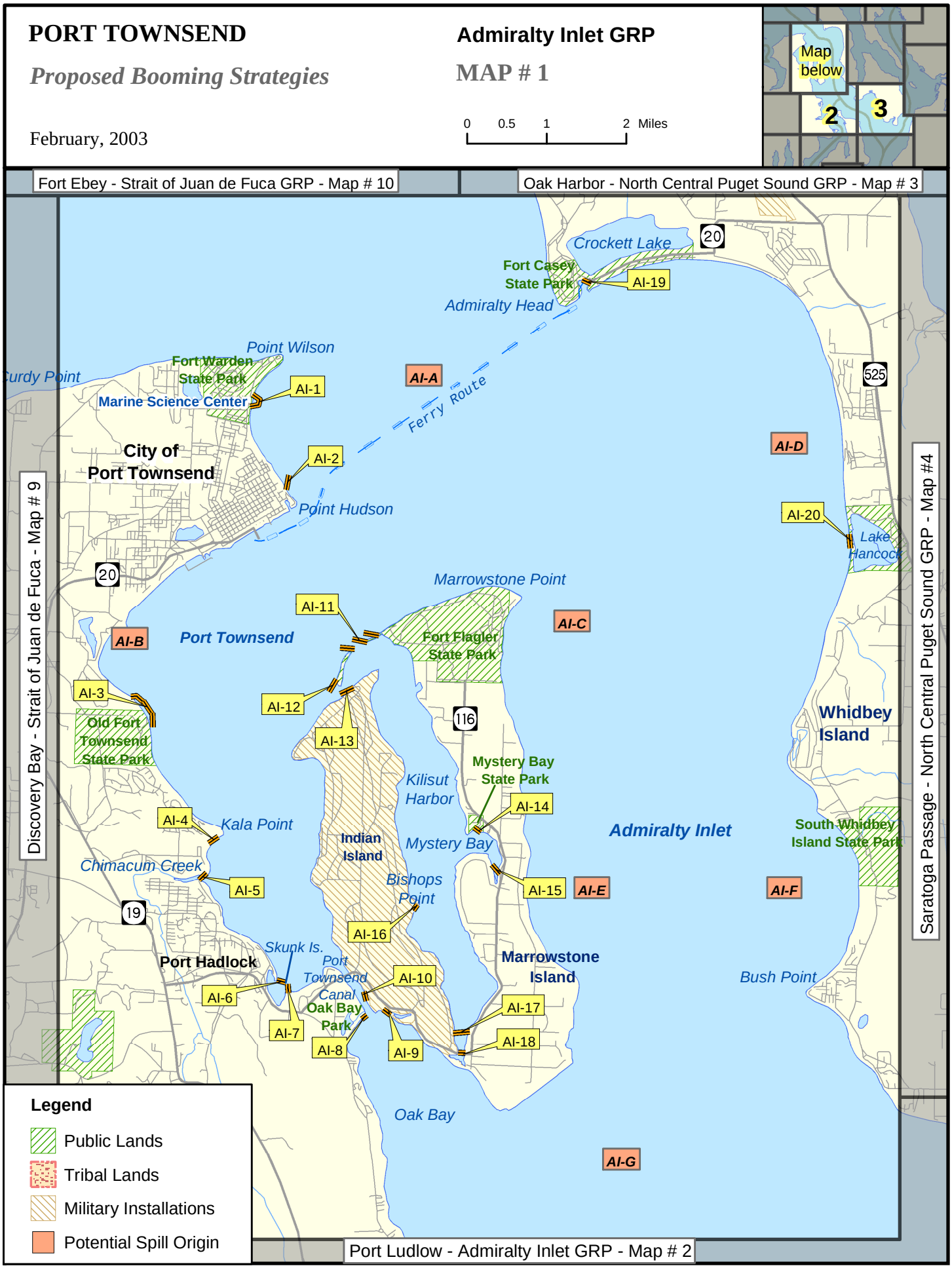
Potential Spill Origin: AI-I - Double Bluff			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-19	4-8	
2	AI-20	4-8	

Table 4-10

Potential Spill Origin: AI-J - Hood Canal, North of Port Gamble			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	HC-1	4-18	Refer to the Hood Canal GRP for HC strategies
2	AI-27	4-9	
3	AI-25	4-9	
4	AI-26	4-9	
5	AI-24	4-9	
6	AI-28	4-9	
7	HC-6	4-18	Refer to the Hood Canal GRP for HC strategies
8	HC-7	4-18	
9	HC-5	4-18	
10	HC-4	4-18	
11	HC-8	4-18	

Table 4-11

Potential Spill Origin: AI-K - Southwest of Cultus Bay			
BOOMING PRIORITY	STRATEGY NUMBER	MAP PAGE NUMBER	COMMENTS
1	AI-31	4-10	
2	AI-29	4-10	
3	AI-30	4-10	


PORT TOWNSEND
Proposed Booming Strategies
February, 2003
Admiralty Inlet GRP
MAP # 1
0 0.5 1 2 Miles
Map below
2
3
Fort Ebey - Strait of Juan de Fuca GRP - Map # 10
Oak Harbor - North Central Puget Sound GRP - Map # 3
Discovery Bay - Strait of Juan de Fuca - Map # 9
Saratoga Passage - North Central Puget Sound GRP - Map #4
Port Ludlow - Admiralty Inlet GRP - Map # 2
Crockett Lake
Fort Casey State Park
AI-19
Admiralty Head
Point Wilson
Fort Warden State Park
Marine Science Center
AI-1
AI-A
Ferry Route
Curdy Point
City of Port Townsend
AI-2
Point Hudson
AI-D
AI-20
Lake Hancock
Marrowstone Point
AI-11
AI-C
Fort Flagler State Park
AI-B
Port Townsend
AI-3
Old Fort Townsend State Park
AI-12
AI-13
Whidbey Island
Mystery Bay State Park
Kilisut Harbor
AI-14
AI-4
Kala Point
Indian Island
Mystery Bay
Admiralty Inlet
South Whidbey Island State Park
Chimacum Creek
AI-5
AI-15
AI-E
AI-F
Bishops Point
AI-16
Skunk Is.
Port Hadlock
Port Townsend Canal
AI-10
Marrowstone Island
Bush Point
AI-6
AI-17
Oak Bay Park
AI-7
AI-18
AI-8
AI-9
Oak Bay
AI-G
20
525
116
19
Legend
Public Lands
Tribal Lands
Military Installations
Potential Spill Origin

PORT LUDLOW

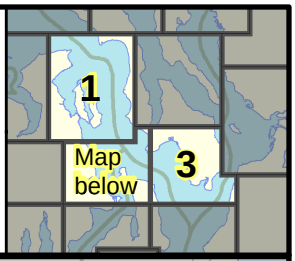
Proposed Booming Strategies

February, 2003

Admiralty Inlet GRP

MAP # 2

0 0.5 1 2 Miles



Port Hadlock
Port Townsend Canal
Oak Bay Park
Island
Bush Point
AI-6
AI-7
AI-8
AI-9
AI-10
AI-17
AI-18
Saratoga Passage - North Central Puget Sound GRP Map # 4
Oak Bay
AI-G
Port Townsend - Admiralty Inlet GRP - Map # 1
Mutiny Bay
Olele Point
AI-I
Double Bluff
AI-21
Mats Mats Bay
Mats Mats Quarry
Admiralty Inlet
AI-H
Useless Bay - Admiralty Inlet GRP - Map # 3
Area not included in GRPs
19
Foulweather Bluff
Port Ludlow
Tala Point
AI-28
AI-23
AI-22
AI-24
Bywater Bay
Hood Head
AI-26
AI-27
AI-25
104
AI-J
Port Gamble - Hood Canal GRP - Map # 1
Squamish Harbor
HC-3
Hood Canal Bridge
Salsbury Point
HC-1
Port Gamble Indian Reservat
HC-5
HC-7
HC-6
HC-3
Point Julia
Port
Edmonds - Central Puget Sound GRP Map # 1

Legend

- Public Lands
- Tribal Lands
- Military Installations
- Potential Spill Origin

USELESS BAY

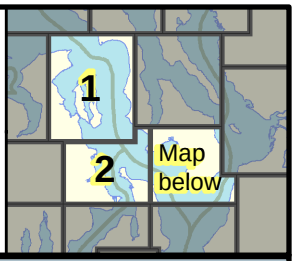
Proposed Booming Strategies

February, 2003

Admiralty Inlet GRP

MAP # 3

0 0.5 1 2 Miles



City of Langley
Sandy Point
Saratoga Passage - North Central Puget Sound GRP - Map # 4
Everett - North Central Puget Sound GRP - Map # 5
Port Ludlow - Admiralty Inlet GRP - Map # 2
Gedney Island
525
AI-29
AI-30
Deer Lagoon
Useless Bay
Whidbey Island
Clinton
Admiralty Inlet
Dave Mackie County Park
Mukilteo State Park
AI-31
Possession Sound
Cultus Bay
Point No Point
Possession Point
AI-K
Picnic Point
Meadowdale
Edmonds - Central Puget Sound GRP - Map # 1
Area not included in GRPs

Legend

- Public Lands
- Tribal Lands
- Military Installations
- Potential Spill Origin

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-1		Port Townsend Marine Science Center JEF0611 48º-8.131' N 122º-45.633' W	Exclusion - Protect Science Center pier.	1200'	Enclose science center pier, protect water intakes.	Science Center Pier.	Road access to Science Center, boat ramp adjacent to Science Center.	Science Center marine life.
AI-2		Beach north of Point Hudson JEF0604 48º-7.166' N 122º-45.097' W	Deflection/ collection - Keep oil from moving into Port Townsend.	1000'	Deploy boom at position where vac truck access is possible for shore-side collection.	Fort Worden State Park.	Port Townsend Marina or Fort Worden State Park.	Protect waterfowl and seabird concentrations.
AI-3		Old Port Townsend State Park JEF0588 48º-4.766' N 122º-47.172' W	Deflection - Keep oil away from park.	3200'	Set up series of overlapping deflection booms parallel to shore north of park. Old pilings along the shore may help hold the boom in place.	Stage at the park or from Port Townsend.	By boat from the Port Townsend Marina.	Sensitive nesting species; significant smelt spawning area.
AI-4		Kala Point - Marsh, south side JEF0579 48º-3.352' N 122º-46.120' W	Exclusion - Keep oil out of marsh.	200'	Place boom across entrance to marsh area south of the spit. Can be deployed from land.	Stage from Port Townsend.	By boat from Port Townsend. Vehicle access from north side of spit.	Protect sensitive marsh habitat.
AI-5		Chimacum Creek Mouth JEF0570 48º-2.943' N 122º-46.332' W	Exclusion - Keep oil out of creek.	300'	Deploy boom at an angle across the creek mouth. Can be deployed from land with a jon boat.	Stage from the Evergreen Logging Company on the south side of the creek.	Vehicle access from the Evergreen Logging Company on the south side of the creek.	Waterfowl concentration, salmonids.

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-6	Field tested 12/94	Port Hadlock Tidal Marsh JEF0561 48º-1.827' N 122º-44.965' W	Exclusion - Keep oil out of marsh.	600'	Deploy boom from west side of Skunk Island directly west to shoreline on sand spit.	Stage from Port Hadlock.	By boat from the Port Hadlock ramp, or from Port Townsend.	Waterfowl concentration, sensitive marsh.
AI-7	Field tested 12/94 MSRC/ Foss	Port Hadlock Tidal Marsh JEF0561 48º-1.749' N 122º-44.880' W	Exclusion - Keep oil out of marsh.	800'	Deploy boom from southeast side of Skunk Island directly south to shoreline west of marina.	Stage from Port Hadlock.	By boat from the Port Hadlock ramp, or from Port Townsend.	Waterfowl concentration, sensitive marsh.
AI-8		Oak Bay - tidal marsh on SW side of Port Townsend Canal JEF0421 48º-1.468' N 122º-43.571' W	Exclusion - Keep oil out of wetlands.	100'	Place boom along entrance to backwater area adjacent to west side of dike/jetty. Access requires the use of a jon boat.	Stage from the Oak Bay Co. Park.	Oak Bay Co. Park ramp/road, ramp may be blocked by drift logs.	Wetland habitat, seabird and waterfowl concentrations.
AI-9		Oak Bay - tidal marsh on SE side of Port Townsend Canal JEF0426 48º-1.532' N 122º-43.236' W	Exclusion - Keep oil out of marsh.	200'	Place boom at marsh outlet south of road, will need a jon boat at high tide.	Stage from the Day park off Marrowstone Island Road.	By land at day park off Marrowstone Island Road, or by water.	Salicornia salt marsh, seabird and waterfowl concentrations.
AI-10		Oak Bay - tidal marsh on SE side of Port Townsend Canal JEF0425 48º-1.699' N 122º-43.583' W	Exclusion/ Deflection - Keep oil out of marsh.	200'	Place boom at outlet to small marsh area, boom needs to be tended to deflect the oil away from the marsh opening depending on the direction of the current in the canal.	Stage from the Day park off Marrowstone Island Road.	By boat in canal; also day park 1/4 mile walk on Marrowstone Island Road.	Salicornia salt marsh, seabird and waterfowl concentrations.

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-11	Field tested 8/20/96	Kilisut Harbor - North entrance JEF0476 48º-2.515' N 122º-43.875' W	Deflection - Keep oil out of harbor.	3000'	Deploy three overlapping booms 1000' long each to deflect the oil past the entrance to the harbor. Current through the harbor entrance is very strong. Likely to work only with 12" fast water boom.	Fort Flagler State Park or Mystery Bay Boat Ramp.	By boat from Fort Flagler or Mystery Bay. Shoreline is U.S. Navy property, need permission for access.	Fish & wildlife resources in Kilisut Harbor. Marine mammal haulout.
AI-12	Field tested 8/20/96	Kilisut Harbor - South entrance JEF0539 48º-5.120' N 122º-44.200' W	Deflection - Keep oil out of harbor.	1000'	Deploy boom from south end of sand spit at south entrance to the harbor to deflect oil away from entrance. Current through the entrance is very strong. May only work with 12" fast water boom.	Fort Flagler State Park or Mystery Bay Boat Ramp.	By boat from Fort Flagler or Mystery Bay. Shoreline is U.S. Navy property, need permission for access.	Fish & wildlife resources in Kilisut Harbor. Marine mammal haulout.
AI-13	Field tested 8/20/96	Kilisut Harbor - South entrance JEF0539 48º-5.060' N 122º-43.950' W	Collection - Keep oil out of harbor.	1000'	Deploy boom from shore on Indian Island at angle to the west. Boom angle will need to be sharp due to strong current through entrance. Deploy boom at position where vac truck access is possible for shore-side collection.	Fort Flagler State Park or Mystery Bay Boat Ramp.	By boat from Fort Flagler or Mystery Bay. Shoreline is U.S. Navy property, need permission for access.	Fish & wildlife resources in Kilisut Harbor. Marine mammal haulout.
AI-14		Mystery Bay JEF0490 48º-3.530' N 122º-41.850' W	Exclusion - Keep oil out of marsh.	100'	Deploy boom at entrance to salt marsh on N.E. shore.	Stage from the Mystery Bay State Park.	By land from Mystery Bay State Park, or by boat from ramp at park.	Salicornia salt marsh, waterfowl concentrations, sensitive nesting species.
AI-15		Mystery Bay JEF0497 48º-3.080' N 122º-41.520' W	Exclusion/ Deflection/ Collection - Keep oil out of marsh/ mud flats.	1000'	Deploy boom from east shore of bay at an angle to the west shore for collection.	Stage from the Mystery Bay State Park.	By boat from the ramp at Mystery Bay State Park.	Salicornia salt marsh, waterfowl concentrations, sensitive nesting species.

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-16		Bishops Point - east shore of Indian Island JEF0524 48º-2.725' N 122º-42.760' W	Exclusion - Keep oil out of marsh on point.	100'	Deploy boom at entrance to salt marsh.	Stage from the Mystery Bay State Park.	By boat from the ramp at Mystery Bay State Park.	Salicornia salt marsh, waterfowl concentrations, sensitive nesting species.
AI-17		Kilisut Harbor - south end JEF0512 48º-1.390' N 122º-42.025' W	Exclusion - Keep oil out of marsh.	1200'	Place at northern most edge of salt marsh - low tide deployment.	Stage from the Mystery Bay State Park.	By boat from ramp at Mystery Bay State Park.	Salicornia salt marsh; waterfowl concentrations; marine mammal haulout; sensitive nesting species.
AI-18		Kilisut Harbor - South culverts JEF0431 48º-1.095' N 122º-42.000' W	Exclusion - Keep oil out of marsh.	100'	Close tide gates; place boom across outlets on north side of road if gates can't be closed. Could also use plywood and sand bags to close off the culvert.	Stage from the Mystery Bay State Park.	Road access at Highway 116.	Salicornia salt marsh; waterfowl concentrations; marine mammal haulout; sensitive nesting species.
AI-19		Crocket Lake ISL0400 48º-9.560' N 122º-40.280' W	Exclusion - Keep oil out of lake.	100'	Place boom around culvert or use plywood to prevent oil from flowing into the lake. High tide strategy only.	Stage from the Fort Casey State Park.	Road access at Highway 20.	Waterfowl and shorebird concentrations.

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-20		Lake Hancock - wetlands ISL0424 48º-6.800' N 122º-35.900' W	Exclusion - Keep oil out of wetlands.	200'	Deploy boom in a chevron configuration across the entrance to the lake. If current through the entrance is too high for boom, block entrance with sand bags as an alternative. Use of sand bags will require an emergency HPA permit from WDFW. Position of entrance is variable and there may be more than one entrance.	Stage from the Fort Casey State Park.	Road access from Highway 525, small road north of lake leads to beach.	Waterfowl concentrations.
AI-21		Mats Mats Bay JEF0384 47º-57.450' N 122º-41.170' W	Exclusion/ Diversion/ Collection - Keep oil out of bay.	1000'	Deploy boom from west side of channel into the bay to shore south of gravel barge slips, and divert oil into cove for barge slips and collect with vac trucks.	Stage from the boat ramp at south end of Mats Mats Bay.	Boat ramp at south end of Mats Mats Bay.	Sensitive nesting species.
AI-22		Port Ludlow tidal marsh - SE corner of bay JEF0358 47º-54.945' N 122º-41.400' W	Exclusion - Keep oil out of marsh.	100'	Deploy boom across entrance to marsh.	Stage from the Port Ludlow Marina (JEF0370).	By boat from Port Ludlow Marina.	Waterfowl and shorebird concentrations, marsh habitat.
AI-23		Port Ludlow mud flats - NW corner of bay JEF0364 47º-55.065' N 122º-41.975' W	Exclusion - Keep oil out of mud flats.	600'	Deploy boom across inlet mouth.	Stage from the Port Ludlow Marina (JEF0370).	By boat from Port Ludlow Marina.	Waterfowl and shorebird concentrations.

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-24		Bywater Bay (spit on north end) JEF0331 47º-53.375' N 122º-37.860' W	Exclusion/ Diversion - Keep oil out of bay.	4000'	Place 2 chevrons (500' each leg) in front of E and W low points on the spit. String 2000' between the chevrons.	Stage from the boat ramp north of Hood Canal bridge on west shore (JEF0311).	By boat from the ramp at the Hood Canal Bridge, possible access by ATV.	Sensitive nesting species, eelgrass, shellfish and baitfish.
AI-25		Bywater Bay at Hood Head JEF0330 47º-52.700' N 122º-37.655' W	Exclusion - Keep oil out of bay.	2500'	Place chevron at mouth of bay, 1000' west leg, 1500' east leg.	Stage from the boat ramp north of Hood Canal bridge on west shore (JEF0311).	By boat from the ramp at the Hood Canal Bridge, possible access by ATV.	Sensitive nesting species, eelgrass, shellfish and baitfish.
AI-26		Bywater Bay at Hood Head JEF0330 47º-52.915' N 122º-37.675' W	Deflection/ Collection - Deflect oil to west side of bay for collection.	2000'	Angle boom behind the chevron from Hood Head to the back of bay, collect any entrained oil in the NW corner of bay.	Stage from the boat ramp north of Hood Canal bridge on west shore (JEF0311).	By boat from the ramp at the Hood Canal Bridge, possible access by ATV.	Sensitive nesting species, eelgrass, shellfish and baitfish.
AI-27		Bywater Bay at Hood Head JEF0330 47º-53.340' N 122º-37.655' W	Exclusion - Keep oil out of bay/ mud flats.	200'	Place 200' between Bywater bay and small bay/ mud flats to the west.	Stage from the boat ramp north of Hood Canal bridge on west shore (JEF0311).	By boat from the ramp at the Hood Canal Bridge, possible access by ATV.	Sensitive nesting species, eelgrass, shellfish and baitfish.
AI-28		Northspit - tidal marsh south of Foulweather Bluff KIT0385 47º-55.790' N 122º-36.805' W	Exclusion - Keep oil out of marsh.	100'	Deploy boom across entrance to marsh at SE corner of spit.	Stage from the Salsbury Point County Park (KIT0435).	By boat from ramp at park.	Waterfowl and shorebird concentrations, marsh habitat.

4.3.1.2 Proposed Booming and Collection Strategies: Matrices - ADMIRALTY INLET

Strategy	Status	Location	Response Strategy	Length of Boom	Strategy Implementation	Staging Area	Site Access	Resources Protected
AI-29		Deer Lagoon ISL0489 47º-59.500' N 122º-29.175' W	Exclusion/ Diversion/ Collection - Keep oil out of lagoon.	700'	Angle boom from west side of lagoon entrance to a collection point on the east shore.	Stage from the Dave Mackie County Park (ISL0508).	By boat from ramp at Dave Mackie County Park (high tide only).	Waterfowl and shorebird concentrations; sensitive nesting species.
AI-30		Tidal marsh southeast of Deer Lagoon ISL0496 47º-59.290' N 122º-28.300' W	Exclusion - Keep oil out of marsh.	200'	Deploy boom across entrance to marsh at west end, will need a jon boat.	Stage from the Dave Mackie County Park (ISL0508).	Road access off road to Deer Lagoon from Bay View Road.	Waterfowl and shorebird concentrations.
AI-31		Cultus Bay ISL0522 47º-55.260' N 122º-23.630' W	Exclusion - Keep oil out of inner bay.	1500'	Deploy boom from the north end of the residential area on the sand spit at the Cultus Bay marina (private) and run the boom directly north to the nearest shoreline where there is access for vac trucks to set up a collection point.	Stage from the Possession boat ramp parking lot (ISL0003) or the Mukilteo State Park.	By boat from Possession ramp or Mukilteo State Park.	Waterfowl and shorebird concentrations; sensitive nesting species.